

A REVISION OF CERTAIN SPECIES OF THE GENUS  
*PRASOPHYLLUM* R. Br.

(Including the Description of a New Species.)

By W. H. NICHOLLS.

This review, restricted to a few forms only, has been undertaken in the knowledge that the determination of certain species of this interesting genus is uncertain. This state of affairs has existed since the time of Bentham, as, in *Flora Australiensis* (Vol. VI), he records J. Hooker's *Pr. Archeri* and C. Stuart's *Pr. intricatum* as distinct species. Moreover, he incorrectly interprets Hooker's plant, and this error is repeated in every publication up to the present time (1931), with but one exception (in part), concerned with the botany of Southern Australia. The exception is Ferdinand von Mueller's *Key to the System of Victorian Plants* (1887-8). Herein the Baron, though interpreting Hooker's plant correctly, includes, like other authors, *Pr. intricatum* also.

With the exception of Dr. R. S. Rogers' very informative contributions in the *Proc. Roy. Soc. of South Australia* (1909-20), no important addition to our knowledge of these small plants has been published. I hope that the present paper, concerned for the most part with the differentiating of a few of the tiny *Prasophylls*, may increase the interest taken in a puzzling and, therefore, fascinating family. In all the plants under review the column has bifid appendages, and the outer lobes are more or less ciliate.

Curiously enough, Hooker's description has been almost completely ignored by all subsequent workers (as stated above). It is as follows:—"*Pr. Archeri* (Hooker fil.). Scapo gracillimo apicem versus bractea longe acuminata instructo; spica brevi pauciflora; floribus horizontalibus flavo-rubris, sepalis lateralibus basi connatis dorsali late ovato acuminato longioribus; petalis ovato-lanceolatis acuminatis; labello unguiculato marginibus fimbriato-laceris; lamella adnata simplici crassa definita, staminodiis bilobis, lobo anteriore subulato fimbriato carnosulo posteriore brevior truncato membranaceo; anthera rostro elongato."

The description of *Pr. intricatum* was published in Bentham's *Flora Australiensis*, Vol. VI, p. 346 (1873). It is evidently from a manuscript. From this description a few particulars only are quoted:—"*Pr. intricatum* (C. Stuart in Herb. F. Muell.); plant slender... habit, etc., of *Pr. fimbriatum*... Flowers brown or pale yellow... labellum purple... broadly-obovate, convex, recurved, fringed with shorter cilia than in *Pr. fimbriatum*."

The above description does not differ in any important particular from that given by Hooker for his *Pr. Archeri*. The plant described as *Pr. intricatum* by Stuart is well known throughout

Victoria, South Australia, and New South Wales. It is widely distributed, and, like all such plants, varies considerably; but it is interesting to record that even its extreme limits in form and colour have been found in specimens from the same district. Both Hooker and Stuart might, perhaps, have been a little more generous with details. Hooker, in his description of *Pr. Archeri*, does not indicate the shape of the labellum; his reference to the labellum margins as "*marginibus fimbriato-laceris*" does not agree with his drawing—a misrepresentation due probably to the artist. Stuart gives a wrong impression when he describes his plant (*Pr. intricatum*) as "with the habit of *Pr. fimbriatum*." The orchid he describes invariably has an abbreviated (squat) spike of flowers, whereas R. Brown's *Pr. fimbriatum* has a long and comparatively loose spike of blooms.

It may always be interesting to speculate why Bentham (in his description of *Pr. Archeri*) came to describe the dorsal sepal and lateral petals as having cilia on the margins. The localities he quotes are: Cheshunt, *Archer*; Oyster Cove, *Milligan*. (No other data given.) But even if his specimens did hail from the island State, it does not alter the fact that his plant is distinct from the one described and figured by Hooker.

In a typical specimen of the form which Bentham calls *Pr. Archeri*, we have a comparatively long spike of deep purplish-black, or prune coloured, much fimbriated flowers, i.e. the margins of the labella; the dorsal sepals and lateral petals are clothed with long fimbriæ. This plant is well known to Victorian collectors. It is also interesting to note that Hooker's reference to the colour of the flowers of *Pr. Archeri* corresponds with that given in Stuart's description of *Pr. intricatum*.

Mr. L. Rodway, the veteran botanist of Tasmania, in his *Tasmanian Flora*, 1903 (p. 194), also records both *Pr. Archeri* and *Pr. intricatum*. His descriptions agree (the localities also) with those given by Bentham. At the foot of the description of *Pr. intricatum* Bentham remarks: "The analytical details given as those of *Pr. nudum*" (see Hooker's *Fl. Tasm.*, II, t. 113) appear to me to have been drawn from a flower of the present *Pr. intricatum*; but I have not met with any specimen from which it can have been taken."

The details referred to by Bentham are, roughly, in keeping with the stout form of the plant described as *Pr. intricatum*; but the labellum seems to be relatively smaller and broader. The figure of the loose spike of flowers (description gives it as from 11 to 30) is not in keeping with Stuart's plant.

Mr. Rodway, in answer to my enquiry regarding the whereabouts of the type specimens of *Pr. Archeri* and *Pr. intricatum*,

(1) Hooker considers his *Pr. nudum* a near relation of his *Pr. Archeri*—yet distinct.

wrote: "The Tasmanian collection (that is Gunn's collection) is now in the National Herbarium of New South Wales." Mr. Edwin Cheel, curator of the Herbarium (through the courtesy of Dr. Darnell Smith, Director of the Sydney Botanic Gardens), writes as follows:—"I find that we have in our collection three specimens collected in Tasmania (without specific locality being stated) by W. H. Archer. Hooker (*Fl. Tas.*, II, 14) gives Cheshunt as the locality, and I have no doubt that the three specimens are those examined and described by Hooker. We have also a solitary specimen from Tasmania (without specific locality), collected by Mr. L. Rodway in 1897."

The above-mentioned specimens (in perfect condition) were subjected to a most careful and minute examination. I find all identical, and agreeing in every particular with Hooker's description of *Pr. Archeri*. This definitely proves my contention that Hooker's *Prasophyllum Archeri* and Stuart's *Prasophyllum intricatum* are one and the same species, and that what we Victorians have been calling *Archeri* has to be renamed. A specimen (well preserved) labelled "*Pr. Archeri*, W. H. Archer Coll." appears to be the identical one figured by Hooker, at least, it agrees perfectly.

The *Prasophyllum*, which Victorian botanists have been calling *Pr. Archeri* for so long, and which was described as such by Bentham, is described by J. H. Maiden and E. Betche as a variety of R. Brown's *Pr. fimbriatum* (see *Proc. Linn. Soc., N.S.W.*, Vol. XXXIV, 1909). It was collected at Charley's Forest, near Braidwood (N.S.W.), by L. Boorman, in March, 1909. Concerning this plant (which was not named), the following remarks appear:—"We drew up the above description from fresh specimens, under the impression that we were describing a new species; but we found out later that we cannot point out any essential difference from Bentham's description of *Pr. fimbriatum*...the description agrees fairly well for both forms...the two plants cannot be identical."

Bentham, in his description of *Pr. fimbriatum*, does not credit this species with having cilia on the margins of the lateral petals. Maiden and Betche, in their description of the Braidwood plant, also omit this important detail. (Mr. Cheel also forwarded this specimen.) I find marginal cilia present on the petals. Fitzgerald's drawings of *Pr. fimbriatum*, in his *Australian Orchids*, can be taken as a faithful representation of R. Brown's plant. The type specimens of *Pr. fimbriatum* were collected at Port Jackson (N.S.W.), W. Woolls, in his *Flora of Australia* (1867), records 45 species of orchids (including *Pr. fimbriatum*) from the Parramatta district (adjacent to Port Jackson), all of which, with but one exception, are described by R. Brown in his *Prodromus*.

Braidwood, the only locality in New South Wales from which the "dark-flowered form" has been recorded, is a considerable distance south from Sydney, and within the vicinity of 40 miles east of what is now Federal Capital Territory. It seems certain that, as Fitzgerald's drawings represent a form fairly common in New South Wales, more especially close to Sydney, this form must have come under R. Brown's observation; furthermore, this botanist describes the labellum as "longissime," a term not strictly adapted to that segment in the form herein described as a new species. In my work of sifting the abundant evidence connected with this tangle, I have received great help from Mr. P. F. Morris, of the National Herbarium, whose name I have bestowed upon this dainty little species.

*Pr. Morrisii* n. sp. Plant gracillima, circa 9-36 cm. alta; supra medium caulis bractea subulata; inflorescentia spicata, lacinuscula, circa 5 mm.-5.5 cm. longa; flores circa 3-24, parvis, purpureis vel subviridis; sepalum-dorsale oratum, cucullatum, acuminatum, circa 4.5 mm. longum, 3-4 mm. latum; marginibus fimbriatis; sepalis-lateralibus patentis, oblongo-lanceolatis, concavis, 4.5 mm.-5.5 mm. longus; petalis triangularibus acuminatis, patentis, 4 mm.-4.5 mm. longus; marginibus fimbriatis; labellum unguiculatum, oblongo-ovatum ad basin angustius, apice acutum, recurvum, 4.5 mm.-5 mm. longum, 2 mm.-2.5 mm. latum; marginibus multi-fimbriatis; lamina callis duobus carnosis, parallelis, papillosis vel glabris, elevatis; columna brevis, circa 1.5 mm.-2 mm. longa; anthera longe, mucronata, lacinae laterales bifidae; marginibus anterioribus ciliatis; stigma anguste ovatum.

Plant slender, but usually more robust than in *Pr. fimbriatum* R. Br.; 9-36 cm. high; leafless, except for a small subulate bract below the spike; flowers 3-24 (in my specimens), almost wholly very dark purple or prune, or green with purple markings (rarely green with pale rufous markings); spike not very crowded, from 5 mm. to 5.5 cm. long; ovary oblong, recurved, on short pedicels, a minute bract below; lateral sepals united at the base only, oblong-lanceolate, falcate, concave, narrowing to a minute acuminate apex, wide spread, about 4.5-5.5 mm. long; dark purplish, lighter on the concave side, or greenish; dorsal sepal about 4.5 mm. long, 3-4 mm. wide, broadly-ovate, cucullate, with a long acuminate point, margins deeply coloured, and beset with purple or purplish-brown hairs; lateral petals triangular, acuminate, deeply hued, except towards the base, fringed as dorsal sepal, about 4 mm.-4.5 mm. long; labellum about 4.5 mm.-5 mm. long, by 2 mm.-2.5 mm. wide, articulate on a small claw, oblong-ovate, conspicuously narrowing towards the base (in occasional specimens<sup>2</sup> the reverse is the case, and the fore part has a peculiar undulate twist (see Fig. J); apex abruptly acute, recurved, the margins densely fringed

[<sup>2</sup>] Sometimes every flower to a few flowers only.

with long undulate or bristly purple or purplish-brown hairs, those, towards the fore part, sometimes very long (up to 3 mm.); lamina surface towards the tip, entirely smooth (almost black), and raised above the margins in some specimens received from Airey's Inlet (April, 1931); two raised pubescent bands extending to the base; column 1-2 mm. high; appendages acutely bifid, the anterior one longest, acute or acuminate, somewhat densely clothed with minute cilia or a few marginal cilia only; posterior lobe smooth, pale-coloured, obtuse or acuminate; antler with a long point; pollen masses granular, about 1 mm. long; caudicle about half as long; stigma narrowly-ovate, sometimes with a basal development of variable length.

Fl. December to May.

Victorian localities of specimens so far examined:—Springvale-Clayton, Mt. Waverley, Ringwood-Bayswater, Lockwood, Oakleigh-Cheltenham, Cravensville (*A. B. Brains*); Pyrete Ranges (*G. Lyell, Miss E. Bond*); Monbulk (*D. Matthews*); Ballarat North (*W. H. N.*); Airey's Inlet (*Miss M. Sutherland*); Wonderland Range, Grampians (*C. W. D'Alton*).

This species grows in abundance on open grassy flats (very wet in winter), also in lightly-timbered country or dense forest. The finest specimens, however, are seen in mountainous country, often at comparatively high altitudes (up to 3000 feet), where, on sloping rock faces, unsheltered from the sun, and generally with a seepage down the slopes, they attain their maximum development. On the Pyrete Ranges, near Gisborne, the plants grow on dry, rocky ridges; an occasional fruiting plant attains a height of 2 feet 6 inches. The tubers of the largest of several specimens from the Wonderland Range measured  $1\frac{1}{2}$  inches in diameter. Often they are much misshapen, owing to contact with rough rock surfaces and the dense network of rootlets of trees and shrubs. The stems of these exceptional plants are wholly dark olive-green, as opposed to the dark-purplish hue of the specimens gathered elsewhere.

[Bentham in *Fl. Australis*, Vol. VI; Rodway in *Tasm. Fl.* (1903); E. E. Pescott in *Orch. of Vic.* (1928); Ewart in *Fl. of Vic.* (1931), *Pr. Archeri*.]

*Prasophyllum Archeri* Hooker fil. The following is a supplemented description of this species, based on the specimens collected from Victorian and other localities, now in my herbarium:

*Pr. ciliatum* Ewart and Rees (*Proc. Roy. Soc. Vic.*, 1912). Two specimens (labelled Type No. 2000) under the above name in the National Herbarium, Melbourne, were carefully examined. They were collected by "F. M. Reader, 19/6/1910. Loc., Green Valley, County of Talbot (Vic.). Herb., C. W. Sutton." One specimen is marked "acuminate labella," the other "broad labella."

These specimens were softened in the usual way. I cannot point out any character differing from the features of Hooker's *Pr. Archeri*, the slender form of which is not altogether uncommon in inland Victoria (Ararat, Stawell, Everton, Newstead, etc.).

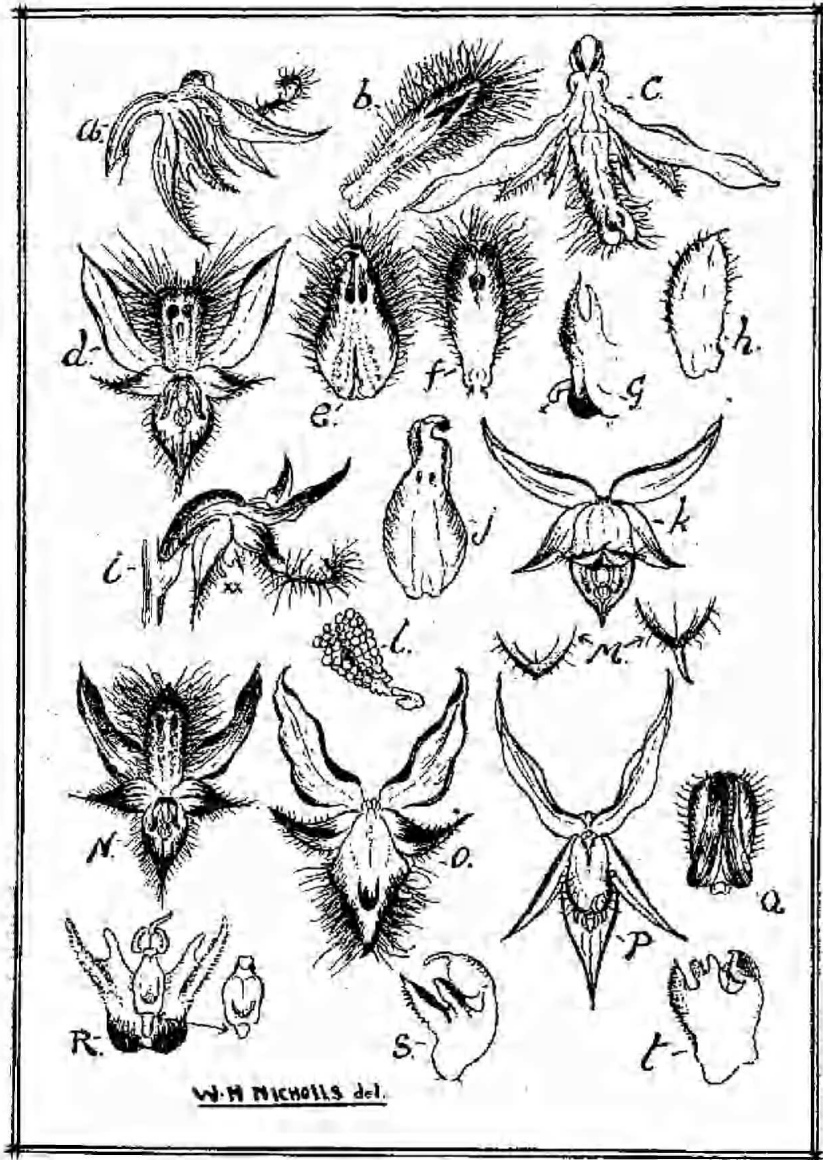
*Pr. Archeri* Hk. fil. (synonyms: *Pr. intricatum* C. Stuart; *Pr. ciliatum* Ewart and Rees). A slender plant from 5-13 cm. high; leafless except for a long subulate bract below the short squat spike of from 2 to 14 flowers; flowers pale yellow or green, with pale brown, red or purplish markings or wholly deep purplish; ovary oblong or ovate, recurved slightly; pedicels very short, with a small very acute bract at base; lateral sepals connate at extreme base (sometimes free), oblong-lanceolate, falcate, somewhat undulate, narrowing to an acute tip; concave towards the front, widely divergent, about 4-7.5 mm. long; petals narrowly-ovate, falcate, wide spread, acuminate, about 4.5-5 mm. long; dorsal sepal broadly-ovate or oblong, deeply cucullate, tip acute or acuminate, about 4-6.5 mm. long; labellum articulate on a short, broad claw, as long as the dorsal sepal; broadly-obovate or oblong, sometimes convex and contracted towards the base; tip acute, or finely acuminate, recurved, often much so, deep purplish or brownish, margins entire or minutely crenulate, anterior margins sparsely and somewhat irregularly fringed with short cilia; the raised callus part and outer margins usually dark-coloured, triangularly divided at base, gradually narrowing upwards to extreme tip, or almost so; anther point very variable, often very long; column appendages bifid; anterior margins of outer lobe fringed with—usually pink—cilia, tip acute; inner lobe glabrous, obtuse, but sometimes divided and marked with cilia; stigma oblong; pollen masses easily detached, granular, very friable, caudicle rather short; base of plant, including tubers, enclosed in a fibrous sheath, remains of old tubers adhering.

Fl. December to June.

Tasmania, Victoria, South Australia, New South Wales. Victorian localities from which specimens have been received.—Ringwood-Bayswater, St. Hallam, Cravensville, Everton, Springvale-Oakleigh-Cheltenham-Black Rock (*A. B. Braine*); Ararat-Stawell (*W. Foster*); Newstead (*H. B. Williamson*); Airey's Inlet (*Miss M. Sutherland*); Foster (*F. Barton, junr.*); Pyrete Ranges (*G. Lyell, W.H.N.*); Frankston (*W.H.N.*); Cobungra (*H. B. Williamson*).<sup>3</sup>

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(3) See Note, *Victorian Naturalist*, Vol. XLV, March, 1929, p. 276.



KEY TO FIGURES.

(Three Species of *Prasophyllum* R. Brown.)

- a. *Pr. fimbriatum* R. Br.—A flower from side (Port Jackson, N.S.W.).
- b. *Pr. fimbriatum* R. Br.—A Labellum (Port Jackson, N.S.W.).

- c. *Pr. fimbriatum* R. Br.—A flower from above (Port Jackson, N.S.W.).
- d. *Pr. Morrisii* n. sp.—A flower with bristly cilia (Grampians, Vic.—labellum raised).
- e. *Pr. Morrisii* n. sp.—A Labellum from front—anterior margins revolute and constricted apex (Pyrete Range, Vic.).
- f. *Pr. Morrisii* n. sp.—Labellum from typical specimen, Springvale, Vic.).
- g. *Pr. Morrisii* n. sp.—Appendage of column showing protruding appendage at base of stigma (X).
- h. *Pr. Archeri* Hk.—Labellum from above (Newstead, Vic.).
- i. *Pr. Morrisii* n. sp.—A flower from side, showing appendage of stigma (at XX).
- j. *Pr. Morrisii* n. sp.—Labellum (from above); cilia removed to show peculiar anterior twist and revolute margins (Pyrete Range, Vic.). (*Sometimes the labella are quite typical in shape, etc.*)
- k. *Pr. Archeri* Hk. (Cheltenham, Vic.).—A flower from front (stout form).
- l. Pollinia of *Pr. Morrisii* n. sp.
- m. Variations (extreme) in apex of labella, *Pr. Archeri* Hk.
- n. *Pr. Morrisii* n. sp.—A flower from front (labellum raised); typical form from Springvale (Vic.).
- o. *Pr. Morrisii* n. sp.—A flower from front, showing undulate character of lateral sepals. Labellum somewhat as Fig. 8 (Pyrete Range, Vic.).
- p. *Pr. Archeri* Hk. (Ararat, Vic.).—A flower from front (slender form).
- q. *Pr. Archeri* Hk.—Labellum from below.
- r. *Pr. Morrisii* n. sp.—Column (wings outspread) showing variations in appendage at stigma base.
- s. *Pr. Morrisii* n. sp.—Column from side from flower, as Fig. o.
- t. *Pr. Archeri* Hk.—Column from side, showing abnormal appendage (Cheltenham, Vic.).

Note.—Dr. Rogers, about the year 1910, was doubtful as to the correctness of Bentham's determination of *Pr. Archeri*, for, regarding a specimen (No. 1418, marked *Pr. Archeri*) in the Herb. of Dr. C. S. Sutton, he has made the following remarks:—"Bentham says the petals and dorsal sepal also are fringed in *Pr. Archeri*. Hooker does not show them so. Hooker, in describing the labellum of *Pr. Archeri*, uses the words *marginibus fimbriato-laceris*, which most accurately describes 1418 labellum, though singularly his drawing CXIII does not show it, nor does Bentham refer to it. Both Müller and Bentham rely for their diagnosis on this (which Hooker calls a *very distinct species*) on such comparatively unimportant matters as a *narrow tip* and a *broad tip*. I doubt whether they have had Hooker's species before them."